Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed

1.1. Name of the Data, data collection Project, or data-producing Program:
South Carolina 2015 ESI INVERTEBRATE Polygons

1.2. Summary description of the data:
This data set contains sensitive biological resource data for marine and estuarine invertebrate species in South Carolina. Vector polygons in this data set represent invertebrate distribution, spawning areas, and concentration areas. Species specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer. This data set comprises a portion of the ESI data for South Carolina. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources.

1.3. Is this a one-time data collection, or an ongoing series of measurements?
One-time data collection

1.4. Actual or planned temporal coverage of the data:
2014 to 2015

1.5. Actual or planned geographic coverage of the data:
W: -81.1615, E: -78.414, N: 33.9384, S: 31.9322
This reflects the extent of all land and water features included in the overall South Carolina ESI study region. The bounding box for this particular feature class may vary depending on occurrences identified and mapped.

1.6. Type(s) of data:
(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
Map (digital)

1.7. Data collection method(s):
(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)

2.1. Name:
ESI Program Manager

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:

2.4. E-mail address:
orr.esi@noaa.gov

2.5. Phone number:

3. Responsible Party for Data Management
Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:
ESI Program Manager

3.2. Title:
Data Steward

4. Resources
Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):

5. Data Lineage and Quality
NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly

accessible

(describe or provide URL of description):

Lineage Statement:

Five main sources of data were used to depict invertebrate distribution and seasonality for this data layer: 1) personal interviews with resource experts from the South Carolina Department of Natural Resources (SCDNR); 2) fishery-independent sampling data provided by SCDNR; 3) fishery-independent sampling data provided by the Atlantic States Marine Fisheries Commission's (ASMFC) Southeast Area Monitoring and Assessment Program (SEAMAP); 4) hardcopy maps and coordinates depicting horseshoe crab spawning beaches and nursery areas; and 5) vector digital data on oyster reef locations provided by SCDNR.

Process Steps:

- 2015-08-01 00:00:00 - Nearshore marine and estuarine distributions of brown shrimp, white shrimp, and blue crab were mapped using expert knowledge of SCDNR staff, SCDNR Trammel Data, and life history information from Estuarine Living Marine Resources (ELMR) program (Nelson et al. 1991). Nearshore marine distributions Atlantic brief squid and cannonball jellyfish were mapped primarily using data provided by SEAMAP. Presence and absence by month calculated from SCDNR and ASMFC data used the exact same methods as were used for fish species. SCDNR Trammel data was used to map blue crab distributions, with data summarized by SCDNR staff for the years 2002-2014 to give total number of blue crab occurrences per sampling station. From this summary, the frequency of blue crab caught was calculated for each month and sampling region. Polygonal sampling regions were created using geographic distribution of sampling stations and were vetted by SCDNR staff. When blue crab was found to occur with a 10% frequency or higher in a given month for a given sampling region it was marked as present for that month and sampling region. Blue crab were mapped to the following estuary and river systems using this method: St. Helena Sound, Charleston Harbor, Lower Wando River, Bulls Bay and Muddy Bay, and Winyah Bay. Additional life history seasonalities, such as larvae, eggs, and spawning months, were typically gathered from interviews with resource experts at SCDNR, USFWS Species Profiles, or ELMR Program data (Nelson et al. 1991). For the nearshore area out to 10m depth, invertebrate species distribution and seasonalities were supplemented with data from the SEAMAP program of the ASMFC. Fishery-independent sampling for the SEAMAP program is conducted in roughly three months out of the year (April, July, and October); however, sampling in practice strays into many of the preceding and following months. Data used for the ESI included the years 2004-2013 and the frequencies of species caught were used to determine monthly presence/absence. Presence within a month was determined by the same 10% frequency cut-off as was used with SCDNR fishery independent sampling data. Sampling months were used as proxies for the season within which sampling occurred. Thus, if a species was found to be present in April, it was assumed to be present in March and May; likewise this was done for June and August (July), and September and November (October). After consulting with

SEAMAP/SCDNR staff and reviewing literature on nearshore species, seasonalities of select species were used to populate areas from 10m depth out to the boundary of the AOI. Horseshoe crab spawning and nursery areas were mapped based on hardcopy maps and lists of coordinates provided by Amy Fowler with SCDNR. After hand digitizing these areas for the ESI product, the geographies of nursery and spawning areas were vetted by SCDNR staff. In addition, the general distribution of horseshoe crabs is represented in the ESI, and is based on expert opinion. Oyster reefs were mapped using digital data provided by SCDNR. The minimum mapping unit of the South Carolina Oyster Reef data set was 5 square meters. In order to minimize the number of polygons, ensure inclusion of smaller reefs not captured with the mapping methods, and create a more generalized distribution; polygons in the data set were buffered by 25 meters and merged together.
- 2015-08-01 00:00:00 - The above digital and/or hardcopy sources were compiled by the project biologist to create the INVERT data layer. Depending on the type of source data, three general approaches are used for compiling the data layer: 1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; 2) hardcopy maps are digitized at their source scale; 3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The ESI, biology, and human-use data are compiled into the standard ESI digital data format. A second set of interviews with participating resource experts are conducted to review the compiled data. If necessary, edits to the INVERT data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):

6. Data Documentation

The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?

No

6.1.1. If metadata are non-existent or non-compliant, please explain:

Missing/invalid information:
- 1.7. Data collection method(s)
- 4.1. Have resources for management of these data been identified?

- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

6.2. Name of organization or facility providing metadata hosting:

NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:

https://www.fisheries.noaa.gov/inport/item/55615

6.4. Process for producing and maintaining metadata

(describe or provide URL of description):

Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf

7. Data Access

NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:
Office of Response and Restoration (ORR)

7.2.1. If data hosting service is needed, please indicate:

7.2.2. URL of data access service, if known:
https://response.restoration.noaa.gov/esi_download

7.3. Data access methods or services offered:
Data can be accessed by downloading the zipped ArcGIS geodatabase from the Download URL (see Distribution Information). Questions can be directed to the ESI Program Manager (Point Of Contact).

7.4. Approximate delay between data collection and dissemination:

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:

8. Data Preservation and Protection

The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:
(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):
Office of Response and Restoration - Seattle, WA

8.3. Approximate delay between data collection and submission to an archive facility:

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?
Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection

9. Additional Line Office or Staff Office Questions

Line and Staff Offices may extend this template by inserting additional questions in this section.